

Enclosure C: Division and Water
Board Aquifer Exemption
Submittal and Review Process

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Division of Oil, Gas, and Geothermal Resources - Aquifer Exemption Submittal and Review Process

The Division of Oil, Gas, and Geothermal Resources (Division) is the state agency responsible for approving the injection of Class II fluid through an agreement with the United States Environmental Protection Agency (US EPA). Through this agreement, which is referred to as “Primacy”, the Division is responsible for ensuring proposed zones of injection are exempt under the Safe Drinking Water Act and the criteria of 40 CFR 146.4. If an operator, or operators, wish to inject Class II fluid into a zone where the water quality is less than 10,000 mg/l TDS, and the zone has not been previously exempted, DOGGR will request data from the operator(s) to provide supporting documentation necessary to meet the aquifer exemption criteria as specified in 40 CFR 146.4 (see Exhibit A).

DOGGR’s evaluation of the supporting documentation provided by the operator(s) must verify:

A) The aquifer does not currently serve as a source of drinking water.

This evaluation will/must include a survey of all water wells in the area of the proposed injection that are likely to have hydrologic conductivity with the zone of injection. Although the area of proposed injection may be smaller than the area of hydrologic conductivity, the supporting documentation must include data and hydrologic modeling that indicates the impacts of injection into the formation would not impact wells in the surrounding areas. Although this criteria states that the aquifer does not serve as a sources of drinking water, the State will evaluate this criterion to a higher standard, that of evaluating whether the aquifer is currently being used for beneficial uses.

B) The aquifer cannot now, and will not in the future, serve as a source of beneficial water because:

- (1) The aquifer is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible.

Supporting documentation must include such data as: production data and/or maps generated using geophysical logs to indicate the oil/water contact of historic and/or current hydrocarbon production. To extent the area will include future hydrocarbon production, the supporting documentation must include definitive data of potential future hydrocarbon production.

- (2) The aquifer is situated at a depth or location that makes recovery of water for drinking water purposes economically or technologically impractical.

Data must be provided that clearly indicates the depth of all impacted water that has the potential to be used for beneficial purposes. Based on current data, water wells are being drilled deeper and deeper because of the drought. Many wells are being drill below 4,000 feet. Because wells are being drilled increasingly deeper, supporting data must be current and accurate.

(3) The aquifer is so contaminated that it would be economically or technologically impractical to render that water fit for beneficial use.

The drought has forced people of the State to use water of lesser quality to meet their needs. Data provided to support the claim that the water is so contaminated that it would be economically or technologically impractical to render that water fit for beneficial use must be current and accurate. Although the initial application will be evaluated by DOGGR, the State Water Resources Control Board and the Regional Water Quality Control Board(s) will be providing their expertise in the final analysis.

(4) The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and other water quality constituents render the water to be of a certain quality that it is not reasonably expected to be used for beneficial uses.

During the process of evaluating the supporting documentation, the Division will confer with the State Water Board, and the operators as necessary to ensure the supporting data is accurate, up-to-date, and complete. Once the Division is satisfied with the supporting documentation, all supporting documentation, an application, and a draft letter to the US EPA requesting an aquifer exemption will be forwarded to the State Water Board for comment. If necessary, the Division and the State Water Board will meet and discuss the supporting documentation. Where appropriate, the operators affected by the proposed aquifer exemption may be included in meetings to clarify or to provide additional supporting documentation. If both the Division and the State Water Boards are in agreement, and if appropriate, the State Water Board will provide a written concurrence to the application.

Although timelines to prepare an aquifer exemption would be helpful, the variety in the complexity and size of each individual application makes it impossible to clarify a definitive timeline to prepare a specific application. However, it is the Division's goal to collect the necessary documentation, evaluate the supporting data, and provide a draft application to the State Water Board as soon as possible after receiving and verifying the required supporting documentation.

Once DOGGR and the State Water Board have reached an agreement to forward an aquifer exemption application to the US EPA, DOGGR will proceed with providing the appropriate public notification and solicit comments on the proposed aquifer exemption. Upon conclusion of the public comment period, and once comments have been appropriately addressed, the Division will forward the application to US EPA – Region 9.

State Water Resources Control Board - Aquifer Exemption Application and Review Process

Aquifer Exemption Application

1. Aquifer exemption applications, along with the Division of Oil, Gas, and Geothermal Resources' (DOGGR) recommendations are submitted to the State and Regional Water Quality Board (State Water Boards).
2. State Water Boards review the aquifer exemption application and DOGGR's recommendations (submittal review criteria detailed below). If necessary, this review may include meetings with DOGGR and operator(s) affected by the application. Review time will depend on the scale of the application and complexity of the proposed aquifer exemption (estimated 30 to 60 days).
3. State Water Boards and DOGGR will work towards reaching a consensus that the aquifer exemption application contains sufficient documented evidence to meet the criteria for an aquifer exemption. If additional information is required to justify an aquifer exemption, DOGGR and/or the State Water Board, depending on the information required, will request additional data from the affected operator(s). This is anticipated to take 15 to 30 days, depending on the data requested.

Every effort will be taken to work both with DOGGR and the affected operator(s) to resolve a lack of supporting data to justify an aquifer exemption.

Note: Review of an aquifer exemption application by the Water Boards is estimated to take 50 to 95 days. If additional information is required, the review process will be greater.

Review Process Criteria

The State Water Boards will review and evaluate the aquifer exemption application(s) in accordance with the following criteria:

1. Identification of underground sources of drinking water and exempted aquifers (Code of Federal Regulations, Title 40, Section 144.7)
2. U.S. Environmental Protection Agency (EPA) Guidance for Review and Approval of State Underground Injection Control (UIC) Programs and Revisions to Approved State Programs (Attachment 3: Guidelines for Reviewing Aquifer Exemption Requests)
3. EPA Aquifer Exemption Checklist
4. Technical demonstration by operator that the waste will remain in the exempted portion of the aquifer(s)

5. A review of current and future beneficial sources of water (e.g. domestic, municipal, irrigation, industrial)
6. Pertinent elements of Regional Water Board Basin Plan(s)

Upon conclusion of the State Water Boards review, the State Water Boards will provide one of the following findings:

- a. If the State Water Boards concur with DOGGR that the aquifer exemption application meets the review criteria, the State Water Board will send a letter of concurrence to DOGGR, and copies to the affected operator(s). This is anticipated to take 5 days after concurring with DOGGR's recommendations.
- b. If the State Water Boards concur that only portions of the aquifer exemption application meet the review criteria, the State Water Boards will send a letter to DOGGR and copies to the affected operator(s) requesting additional information. This is anticipated to take 5 days after making a determination.
- c. If the State Water Boards conclude that the aquifer will not meet the criteria of an aquifer exemption, the State Water Boards will send a letter of its findings to DOGGR, with copies of these findings being sent to the affected operator(s). This is anticipated to take 5 days after making a determination.

Exhibit A - 40 CFR 146.4: Criteria for Exempted Aquifers

An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in § 146.3 may be determined under § 144.7 of this chapter to be an "exempted aquifer" for Class 1-V wells if it meets the criteria in paragraphs (a) through (c) of this section. Class VI wells must meet the criteria under paragraph (d) of this section:

- (a) It does not currently serve as a source of drinking water; and
- (b) It cannot now and will not in the future serve as a source of drinking water because:
 - (1) It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible.
 - (2) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
 - (3) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

(4) It is located over a Class III well mining area subject to subsidence or catastrophic collapse;
or

(c) The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/1 and it is not reasonably expected to supply a public water system

(d) The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under § 144.7(d) of this chapter if it meets the following criteria:

(1) It does not currently serve as a source of drinking water; and

(2) The total dissolved solids content of the ground water is more than 3,000 mg/1 and less than 10,000 mg/1; and

(3) It is not reasonably expected to supply a public water system.

Priorities, timelines and process

Taken in series, the sequence and timelines leading to a decision on aquifer exemptions will create a high level of concern that: 1. The body of work needing to be accomplished in a two-year period either cannot be managed, or, 2. The process will result in a large proportion of applications sent to US EPA in the final months of the period, without hope for resolution by February 15, 2017. Hence there is an essential need for the Water Board and DOGGR to work together in parallel as data are accrued by operators in support of exemptions to maximize parallel efforts and minimize serial efforts. To a large degree, such parallel work can only be possible if the data submitted are accurate, up to date and compiled in a readily accessible, standardized way. Further, the case for exemption must be rendered in a succinct, fact-driven form, supported by supporting data in appendices.

To facilitate an efficient workflow, DOGGR will establish a team of staff whose sole purpose will be to manage aquifer exemptions applications, and whose job it will be to know the status of any application at a given time and to work with operators to facilitate the development of a complete data set needed for the development of an aquifer exemption application to US EPA.

There are potentially as many as 100 aquifers for which portions are of interest to multiple operators and are likely candidates for consideration for exemption. Though a clear set of priorities is being developed in consultation with industry associations, who will assist in this effort, criteria that will drive priority consideration will include: date all data and justifications are certified as complete by DOGGR, impact on production levels within the state, impact on operator ability to produce, quality of the data submitted, timeliness of operator response to questions and data requests, and clarity of the case for exemption.